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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,441	12/03/2003	Paul Mueller	CH2M.07/CIP	7116
25871	7590	07/14/2005	EXAMINER	
SWANSON & BRATSCHUN L.L.C. 1745 SHEA CENTER DRIVE SUITE 330 HIGHLANDS RANCH, CO 80129			FORTUNA, ANA M	
			ART UNIT	PAPER NUMBER
			1723	

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/727,441

Applicant(s)

MUELLER ET AL.

Examiner

Ana M. Fortuna

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 April 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5 and 20-23 is/are allowed.
- 6) ☒ Claim(s) 6-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/7/05.
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Allowable Subject Matter*

1. Claims 1-5, and 20-23 are allowed.
2. Reasons for allowance: rejection of claims 1-5 above has been overcome by the Terminal Disclaimer filed on 4/01/05. Claims 20-23 are allowed over the prior art of record. US patent 6,669,849 teaches the resin treatment in conjunction with membrane, however, performing the process by immersed membranes and regenerating the resin within the same membrane tank, is not disclosed or suggested. Reference EP '826 also regenerates the resin outside the membrane tank.

### *Claim Rejections - 35 USC § 112*

3. Claims 6-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 6 and 10 are unclear regarding to step d) of claim 1, this step does not correspond to claim 10, which requires maintaining the resin within the tank, such that the resin can be regenerated within the process tank. Claims 7-9, and 11-12 are also rejected as depending on claim 6.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6-9, and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0605826 B1 (hereinafter The EP patent) in view of Nguyen et al (6,669,849)(corresponding to WO96/07615)(hereinafter Patent '849). The EP patent discloses a process of filtering a fluid (liquid) by immersed membrane and adding adsorbent, e.g. ion exchange resin, or activated carbon, zeolite, etc. to the tank containing the liquid, and the membrane, filtering the liquid by the membrane (page 5, column 1, first paragraph) and , separating the adsorbent (page 2, column 1, lines 46-59, column 2, lines 1-58, and column 3, lines 40-50). The EP patent also discloses removing the ion exchange resin from the tank, regenerating and recycling back to the tank (column 5, lines 28-49, column 4, lines 42-62). The EP patent fails to disclose using magnetic ion exchange resin in the process and separating the resin with a magnetic separator, as in present claim 6.

Patent '849 teaches treating liquid, water, by adding magnetic resin to the water (or water container), removing depleted resin, regenerating and recycling the resin back to the process, resin regeneration steps are also disclosed (column 3, lines 13-59). The removal of the resin is perform by filtration, magnetic separator, e.g. magnetic belt, pipes, disks, drums, pumps, etc. (column 5, lines 7-17).

It would have been obvious to one skilled in the art at the time the invention was made to substitute the step of separating the resin by a pipe, as disclosed in the EP reference, by an equivalent separation method, e.g. by a magnetic belt, as suggested in patent '849 (column 5, lines 13).

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As to claims 7-9, the external regeneration and recycling is discussed above. As to claim 11, the recycling and reuse, e.g. multiple steps regeneration of the same resin, is suggested in EP'826 (column 5, lines 41-49). Regarding claim 11, regenerating and reusing the brine is suggested by patent '849 (column 4, first paragraph).

### ***Conclusion***

6. Reference 5,772,891 also teaches resin treatment in combination with immersed membrane, regeneration of the resin in the tank is not disclosed.

6. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 6/7/05 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609(B)(2)(i). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

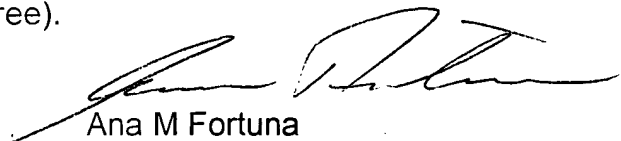
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana M. Fortuna whose telephone number is (571) 272-1141. The examiner can normally be reached on 9:30-6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on (571) 272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ana M Fortuna  
Primary Examiner  
Art Unit 1723

AF  
July 11, 2005